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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,665	11/15/2001	Peter Lohberg	AP9641	6599
10291	7590	11/30/2004	EXAMINER	
RADER, FISHMAN & GRAUER PLLC 39533 WOODWARD AVENUE SUITE 140 BLOOMFIELD HILLS, MI 48304-0610			PATIDAR, JAY M	
			ART UNIT	PAPER NUMBER
			2862	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/980,665

Applicant(s)

LOHBERG, PETER

Examiner

Jay M. Patidar

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This communication is in response to applicant's amendment received on August 4, 2004.

2. The proposed drawing corrections, filed on August 4, 2004 have been approved by the examiner.

3. Claims 16,21-25 are objected to because of the following informalities:

In claims 16,22, the phrase "a magnet disposed about a sensor unit" is not clearly understood; it is unclear as to where said magnet is mounted;

In claim 24, it is unclear as to what the phase relation is; the phase relation of what?

In claims 21,23,25, it is not clearly defined as to what a sinusoidal signal current is; how speed and air gap are determined from such current.

Appropriate correction is required.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter

pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loreck et al. in view of Lohberg (DE 196 20 582).

As to claims 16-17,22,24, Loreck discloses a sensor arrangement with a first housing 12 for the accommodation of at least one converter element, a second housing 13 for a signal processing unit; at least 4-pole connection (14) between the first and the second housing and the second housing includes a port for a control device and the signal processing circuit in the second housing outputs the signal related to the speed of the encoder (Note Fig. 4a). Loreck discloses a magnet that is used as a biasing magnet (Note corresponding US patent 6,339,322) at col. 1, lines 31+ that is magnetically coupled to a magnetic encoder arranged in a sidewall of a magnetized tire (Col. 5, lines 9+) wherein the sensor is being used to determine the wheel speed. The phase relation (claim 24) can be achieved as disclosed in Loreck at col. 3, lines 12+ and lines 65+. The use of this type of sensor for measuring dynamic deformation of an air gap between the sensor and an encoder is already known in the art as disclosed by Lohberg in DE '582 (Note in specification, paras # 0003,0008,0009 and e.g. DE 196 20 581). Lohberg teaches to use such sensor for rotational behavior of a vehicle wheel wherein the air gap between the sensor and the encoder is

measured. Consequently, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Loreck to measure air gap between the sensor and the encoder as taught by Lohberg to measure the deformation of the tire.

As to claim 18, Loreck discloses a first pin k4 or k3 providing a signal output from the sensor to a control unit and a second pin k5 providing an operating voltage to the sensor (Note Fig. 1).

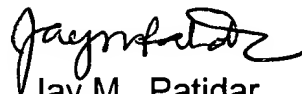
As to claims 19,20, encoder is a permanent magnet type or ferromagnetic type encoder (col. 5, lines 9+).

As to claims 21,23,25, the wheel speed and dynamic deformation of an air gap can be found from the output signals generated by Loreck (col. 3, lines 6+) and Lohberg (Note pages 1-2 of the specification).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay M. Patidar whose telephone number is 571-272-2265. The examiner can normally be reached on M-Thur 7:00-5:30.

The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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November 24, 2004